

# VR Glasses

Wenheng Gao

This project was also completed in 2018. This is a project I made when I first came into contact with interactive design. I want to complete VR glasses that can recognize sound decibels by sensing. Some people with hearing impairment can achieve some interactive effects through the visual display of the glasses, for example, they can sense the existence of sound.

## DESKTOP RESEARCH

### FACT

#### The outside influence

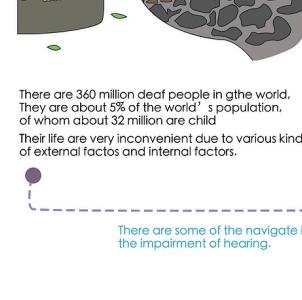
There are some of the sound cannot be listened by the deaf people so that those can cause many outside influences for them.



The sound of talking. The sound of eating food. The sound of wind blowing leaves. The sound of TV.



The sound of pouring out of the water. The barking of cats and dogs. All kinds of music. The sound of cooked food.



It is the people with hearing impairment in emotional regulation and self-perception.

The people with hearing impairment cannot talk and speak well because they have no chance to hear others.

The people with hearing impairment will have a worse mood than normal people because they cannot have the ability to enjoy sounds like others.

The people with hearing impairment will be more likely to become angry because of the inconvenience in their life.

There are 360 million deaf people in the world. They are about 5% of the world's population, of whom about 32 million are children. Their lives are very inconvenient due to various external factors and internal factors.

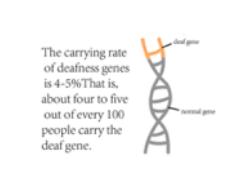
#### The inside influence

There are some of the navigate influence caused by the impairment of hearing.

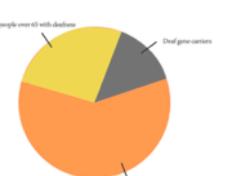
## RESEARCH

### QUESTIONNAIRE

Here are two examples about the needs and feelings of deaf people in different ages

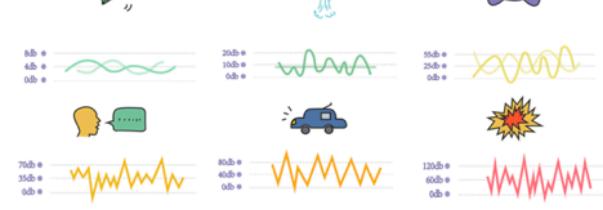


"I'm a 12-year-old boy, I have congenital deafness which brings a lot of trouble to me. I cannot hear like other children and talk to them. I wish one day I can feel the sound."

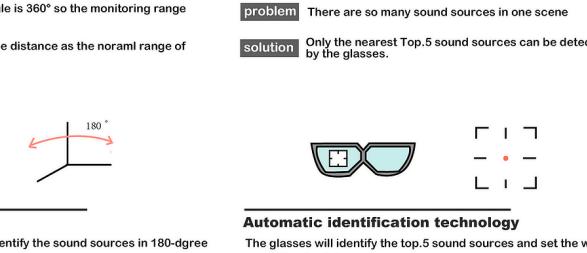


"I'm 24 years old now and I still stay at home without a job. The deafness brings me deep depression and that leads me to feel upset every day."

### IDEA



### DB SIZE EXAMPLE



## IDEATION

### IDEA 1

**problem** The distance from people to the sound is changeable

**solution** We can change the size of the sound waves to show the sound in different distances.



#### Change with distance

As people get closer, the sound will be louder so that the color of the wave is darker.

As people get farther from the subject, the sound will decrease and the color of the wave will be lighter.



### IDEA 2

**problem** People's viewing angle is 360° so the monitoring range must be defined

**solution** We should define the distance as the normal range of people's sight.

### IDEA 3

**problem** There are so many sound sources in one scene

**solution** Only the nearest top 5 sound sources can be detected by the glasses.

## DEVELOP

### DECISION

-Preliminary sketch



#### -Design sketch



#### -Design sketch



### DECISION

There is a flow chart from people's need to the use of the glasses. People's needs come from their curiosity and psychological balance, so they will use some tool like the hearing-aid glasses. After the help of the tool, they may feel much better to be a normal man and reach a balance in their heart.

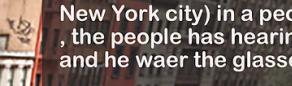


-3 simulation scene about people who wear the glasses.

Scene 1. Bustle street



Scene 2. Friend's home



Scene 1. Music hall

